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Census File Number

Item 17. CONSUMPTION OF SELECTED MATERIALS DURING 1997

INSTRUCTIONS

1. **General** – The materials, parts, and supplies listed below are those commonly consumed in the manufacture, processing, or assembly of the products listed in item 18B. Please review the entire list and report separately each item consumed. Leave blank if you do not consume the item. If you use materials, parts, and supplies which are not listed, describe and report them in the "Cost of all other materials . . . " line at the end of this section. If you consumed less than \$25,000 of a listed material, include the value with "Cost of all other materials . . . ," Census material code 970099 8.

Report materials, parts, and supplies purchased, transferred from other plants of your company, or withdrawn from inventory.

If quantities are requested, please use the unit of measure specified.

If the information as requested cannot be taken directly from your book records, REASONABLE ESTIMATES ARE ACCEPTABLE.

2. **Valuation of Materials Consumed** – The value of the materials, etc., consumed should be based on the delivered cost; i.e., the amount paid or payable after discounts and including freight and other direct charges incurred in acquiring the materials.

Materials received from other plants within your company should be reported at their full economic value (the value assigned by the shipping plant, plus the cost of freight and other handling charges).

If purchases or transfers do not differ significantly from the amounts actually put into production, you may report the cost of purchases or transfers. However, if consumption differs significantly from the amounts purchased or transferred, these amounts should be adjusted for changes in the materials and supplies inventories by adding the beginning inventory to the amount purchased or transferred and subtracting ending inventory.

3. **Contract Work** – Include as materials consumed those you purchased for use by others making products for you under contract. Amounts paid to the companies doing the contract work should be reported in item 10, line e, and should include freight in and out. On the other hand, materials owned by others but used at this establishment in making products for others under contract or on commission should be excluded.

4. **Resales** – Cost for products bought and sold or transferred from other establishments of your company and sold without further manufacture, processing, or assembly should be reported in item 10, line b, not in item 17 below. The value of these products shipped by this establishment should be reported in item 18B under Census product code 99989 00 6, "Resales."

5. **Produced and Consumed** – Forgings, foundries, and screw machine products – Report the quantities produced and used in manufacturing other products made in this establishment in item 19. Note that the materials used to produce these items should be reported in item 17.

Line No.	Materials, parts, and supplies		Census material code	Consumption of purchased materials and of materials received from other establishments of your company		
				Cost, including delivery cost (freight-in)		
	(A)		571 (B)	574 Millions	Thou-sands	Dollars
1	Electric motors, generators, and parts		362105 9	\$		
2	Hydraulic and pneumatic fluid power pumps, motors, and hydrostatic transmissions		359412 4			
3	Clutches, couplings, shafts, sprockets, and other mechanical power transmission equipment		356835 9			
4	BEARINGS (Including both mounted and unmounted)	Ball	356218 8			
5		Roller	356201 4			
6	Balls, rollers, cages, collars, races, and other antifriction bearing components and parts		356295 6			
7	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		354430 1			
8	Internal combustion engines (diesel, semidiesel, gasoline, and other carburetor)		351910 5			
9	FABRICATED METAL PRODUCTS (Except forgings)	Bolts, nuts, screws, washers, rivets, and screw machine products		345001 2		
10		Other fabricated metal products		340098 3		
11	Forgings	IRON AND STEEL	Cold	346201 7		
12			Other	346209 0		
13		Nonferrous		346300 7		
14	CASTINGS (Rough and semifinished)	Iron and steel		332001 7		
15		Nonferrous		336010 4		

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Item 17. CONSUMPTION OF SELECTED MATERIALS DURING 1997 – Continued								
Line No.	Materials, parts, and supplies			Census material code	Consumption of purchased materials and of materials received from other establishments of your company			
					Cost, including delivery cost (freight-in)			
	(A)			571	(B)	(E)		
					574	Millions	Thou- sands	Dollars
16	Shapes and Forms (Except castings, forgings, and fabricated metal products)	STEEL	Bars, bar shapes, and plates	331007 5	\$			
17			Sheet and strip	331022 4				
18			All other steel shapes and forms	331034 9				
19		Copper and copper-base alloy	335105 3					
20		Other nonferrous shapes and forms	335090 7					
21	Scrap (iron, steel, aluminum, etc.), except home scrap			190060 4				
22	Grinding wheels and other abrasive products, except industrial diamonds			329101 0				
23	Paperboard containers, boxes, and corrugated paperboard			265001 8				
24	Cost of all other materials and components, parts, containers, and supplies consumed			970099 8				
	Describe the principal materials, etc., included in this value.							
25	TOTAL Sum of lines 1–24 should equal item 10, line a				\$			

Item 18A – Not applicable to this report

Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997	
INSTRUCTIONS	
<p>1. General – The manufactured products and services listed below are generally made in your industry. If you make products that are not listed, describe and report them in the "All other products made in this establishment" section at the end of item 18B. PLEASE DO NOT COMBINE PRODUCT LINES.</p> <p>If quantities are requested, please use the unit of measure specified.</p> <p>If the information as requested cannot be taken directly from your book records, REASONABLE ESTIMATES ARE ACCEPTABLE.</p>	<p>3. Contract Work – Report PRODUCTS MADE BY OTHERS FOR YOU FROM YOUR MATERIALS on the specific lines as if they were made in this establishment. On the other hand, do not report on the specific product lines PRODUCTS THAT YOU MADE FROM MATERIALS OWNED BY OTHERS. Report only the amount that you received for "commission or contract receipts" under Census product code 93000 00 8.</p>
<p>2. Valuation of Products – Report the value of the products shipped and services performed at the net selling value, f.o.b. plant to the customer; i.e., after discounts and allowances, and exclusive of freight charges and excise taxes.</p> <p>If you transfer products to other establishments within your company, you should assign the full economic value to the transferred products; i.e., include all direct costs of production and a reasonable proportion of all other costs and profits.</p>	<p>4. Resales – Do not report on the specific product lines those PRODUCTS BOUGHT AND SOLD OR TRANSFERRED FROM OTHER ESTABLISHMENTS OF YOUR COMPANY AND SOLD WITHOUT FURTHER MANUFACTURE. Report only a value under Census product code 99989 00 6, "Resales."</p> <p>5. Detailed Data Reported Elsewhere – Items denoted by an asterisk (*) require totals for groups of products covered in the more frequent Current Industrial Reports (CIR). If you report on the CIR forms, the sum of the detailed CIR products should equal the total reported on this census form.</p> <p>NOTE: Only CIR totals are requested; do not duplicate detail reported on the CIR.</p>

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 – Continued								
Line No.	Products and services *Item corresponds to products reported on Current Industrial Reports				Census product code	Products shipped and other receipts, including interplant transfers		
						Value, f.o.b. plant (E)		
						584		Thou- sands
	(A)	(B)	Millions					
1	Ball bearings, complete, unmounted (corresponds to the sum of item codes 2101-2155 as reported on CIR Form MA35Q, Antifriction Bearings, for 1997) (35621)*				35621 00 2	\$		
2	Tapered roller bearings (including cups and cones), unmounted (corresponds to the sum of item codes 2232-2234 as reported on CIR Form MA35Q, Antifriction Bearings, for 1997) (35622)*				35622 00 0			
3	Other roller bearings, unmounted (corresponds to the sum of item codes 2311-2393 as reported on CIR Form MA35Q, Antifriction Bearings, for 1997) (35623)*				35623 00 8			
4	Mounted bearings (except plain) (corresponds to the sum of item codes 2417-2455 as reported on CIR Form MA35Q, Antifriction Bearings, for 1997) (35624)*				35624 00 6			
5	Parts and components for ball and roller bearings (including balls and rollers, sold separately, but excluding cups and cones) (corresponds to the sum of item codes 2911-2959, as reported on CIR Form MA35Q, Antifriction Bearings, for 1997) (35629)*				35629 00 5			
6	PLAIN BEARINGS, EXCEPT ENGINE	Plain bearings and bushings, unmounted, machined			35681 12 1			
7	(35681)	Mounted bearings, plain			35681 51 9			
8	Aircraft transmissions and parts				37285 00 4			
9	Brake parts and assemblies for automobiles, highway trucks, and buses, new (not rebuilt parts)				37148 00 4			
10	Drive train components for automobiles, highway trucks, and buses, except wheels, brakes, and rebuilt products				37146 00 8			
11	Other parts and accessories for automobiles, highway trucks, and buses, including wheels, gasoline engines, and rebuilt products – <i>Specify kind</i>				37140 00 1			
NOTE: Lines 12 through 62 pertain to products NOT for use with automobiles, buses, highway trucks, or aircraft.								
12	CLUTCHES AND BRAKES	Friction-type			35683 11 9			
13		Hydraulic-type (including hydraulic couplings)			35683 13 5			
14		Other			35683 19 2			
15	FLEXIBLE COUPLINGS	Gear-type			35683 20 0			
16		Other			35683 23 4			
17	Universal joints				35683 25 9			
18	CHAINS FOR SPROCKET DRIVES	Roller chain meeting any ASME or ANSI standard			35683 33 3			
19		Other			35683 35 8			
20	Sprockets				35683 44 0			
21	Pulleys				35683 51 5			
22	SHEAVES	Single-drive			35683 61 4			
23		Multiple-drive			35683 65 5			
24	Loose Gearing, Including Gears, Pinions, Racks, and Worms, Sold Separately (Except for automobiles, buses, highway trucks, and aircraft)	COARSE PITCH (Diametral pitch less than 20; corresponds to circular pitch more than .157")	Helical, herring-bone, and spur gearing	Diameter 24" (60.96 cm) or less, hard finished	35663 11 1			
25				Diameter 24" (60.96 cm) or less, other than hard finished	35663 13 7			
26				Diameter more than 24" (60.96 cm), up through 72" (182.88 cm)	35663 16 0			
27				Diameter more than 72" (182.88 cm)	35663 18 6			
28		Worms and worm gearing			35663 25 1			
29		Bevel gears (straight, spiral, and other)			35663 35 0			
30		(Continued on next page)	Other types, including racks			35663 46 7		

Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 – Continued								
Line No.	Products and services			Census product code	Products shipped and other receipts, including interplant transfers			
					Value, f.o.b. plant (E)			
					581	584		
	(A)	(B)	Millions	Thou-sands	Dollars			
31	Loose Gearing, Including Gears, Pinions, Racks, and Worms, Sold Separately (Except for automobiles, buses, highway trucks, and aircraft) – Continued	FINE PITCH (Diametral pitch 20 or more; corresponds to circular pitch .157" or less)	Helical, herringbone, and spur gearing	35663 53 3	\$			
32			Worms and worm gearing	35663 55 8				
33			Other, including bevel gears and racks	35663 57 4				
34	Worm Gear Products, Except Worms and Worm Gears	WORM SPEED REDUCERS	Single reduction, center distance less than 3" (7.62 cm), with C-face, flange, or scoop mount	35667 14 6				
35			Single reduction, center distance less than 3" (7.62 cm), without C-face, flange, or scoop mount	35667 16 1				
36			Single reduction, center distance 3" (7.62 cm) or more	35667 18 7				
37			Double or multiple reduction (worm/worm or helical/worm)	35667 21 1				
38		RIGHT ANGLE WORM GEARMOTORS (Enclosed right angle worm gear drive in common support with an electric motor, having an exclusive and dependent (or "interrelated" interface design)	Less than 1 horsepower (746 watts)	35667 25 2				
39			At least 1 horsepower (746 watts)	35667 26 0				
40		Replacement parts, all types		35667 29 4				
NOTE: Lines 41 through 48 pertain to any concentric and parallel shaft speed reducer, motor-reducer, and gearmotor products for which input and output shafts are parallel and closely aligned with each other. Known by many names, including planetaries, cycloids, and epicyclics, these may be concentric constructions or those which may incorporate any type of internal speed reduction components such as spur, helical, and bevel gear teeth, harmonic, epicyclic, cycloidal, chain, cam, etc.								
41	Concentric and Parallel Shaft Speed Reducer, Motor-Reducer, and Gearmotor Products, Including Planetaries, Cycloids, and Allied Products	ENCLOSED CONCENTRIC AND PARALLEL SHAFT SPEED REDUCERS AND MOTOR-REDUCERS	Output stage center distance 6" (15.24 cm) or less	35667 37 7				
42			Output stage center distance greater than 6" (15.24 cm)	35667 38 5				
43		CONCENTRIC AND PARALLEL GEARMOTORS (Shaft motor-reducers; all units for which the enclosed reduction drive and electric motor have a common support and use an exclusive and dependent or "interralated" interface design)	Less than 1 horsepower (746 watts)	35667 41 9				
44			At least 1 horsepower (746 watts), up through 5 horsepower (3.73 kW)	35667 43 5				
45			More than 5 horsepower (3.73 kW), up through 20 horsepower (14.9 kW)	35667 45 0				
46			More than 20 horsepower (14.9 kW)	35667 47 6				
47			Planetary, cycloidal, epicyclic, chain, and cam reducers and gearmotors		35667 48 4			
48		Replacement parts, all types		35667 49 2				
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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 – Continued							
Line No.	Products and services			Census product code	Products shipped and other receipts, including interplant transfers		
					Value, f.o.b. plant (E)		
	(A)			581	584		
				(B)	Millions	Thou-sands	Dollars
49	SHAFT-MOUNTED SPEED REDUCERS AND SCREW CONVEYOR DRIVES	Maximum bore of hollow shaft 2.756" (70 mm) or less in diameter		35667 53 4	\$		
50		Maximum bore of hollow shaft more than 2.756" (70 mm) in diameter		35667 55 9			
51		Replacement parts, all types		35667 59 1			
52	Industrial high-speed drives, fixed ratio, pitch line velocity of 5000 feet (1525 meters) per minute or more (pinion speeds of at least 3600 rpm); and replacement parts			35667 66 6			
53	Offset Parallel Shaft and Right Angle Speed Reducers	OFFSET PARALLEL SHAFT REDUCERS (Including helical, herringbone, and spur)	Low-speed center 15" (38.10 cm) or less	35667 71 6			
54			Low-speed center more than 15" (38.10 cm)	35667 73 2			
55		Right angle, single and multiple reduction reducers (other than worm)		35667 76 5			
56		Replacement parts		35667 79 9			
57	Mechanical adjustable speed drives (traction and belt variable speed changers), excluding parts and value of drivers			35667 83 1			
58	Parts for mechanical adjustable speed drives (traction and belt variable speed changers)			35667 88 0			
59	Other geared speed changers, industrial high-speed drives, and mechanical variable speed drives (gearboxes and allied products), not elsewhere classified, and parts			35667 99 7			
60	Marine propulsion gear transmissions and drives			35683 77 0			
61	Other mechanical power transmission equipment, not elsewhere classified, including ball joints, nonflexible drive shafts and couplings, etc.			35683 83 8			
62	Parts for mechanical power transmission equipment, including mountings for bearings			35683 95 2			
63	CONSTRUCTION MACHINERY AND EQUIPMENT (Including similar machinery used for forestry)	Complete units (including attachments which are themselves machinery) – Specify kind		35310 00 2			
64		Parts, sold separately – Specify for what kind of finished product			35319 00 3		
65	Conveyors and Conveying Systems (Except hoists and farm elevators; report those on lines 85–92)	UNIT HANDLING CONVEYORS AND CONVEYING SYSTEMS	Complete units, including gravity, trolley, tow, powered, pneumatic tube, portable, and pallet conveyors, and carrousel – Specify kind and whether for heavy duty	35353 00 2			
66			Parts, attachments, and accessories, sold separately		35354 00 0		
67		BULK MATERIAL HANDLING CONVEYORS AND CONVEYING SYSTEMS	Complete units, including belt conveyors and systems; screw, pneumatic, portable, en masse, vibrating, apron, flight, and drag conveyors; vibrating feeders; bucket elevators; bucket wheel and other reclaimers; traveling stackers, and other loading and storing systems – Specify kind	35355 00 7			
68			Parts, attachments, and accessories, sold separately – Specify whether belt idlers, belt pulleys, or other	35356 00 5			
69	Fluid power (hydraulic and pneumatic) pumps, motors, and hydrostatic transmission components (corresponds to the sum of items 5504–5597 as reported on CIR Form MA35N, Fluid Power Products, for 1997)			35940 00 6			
70	Electric motors and generators (corresponds to the sum of item codes 1015–8595 (except "totals") as reported on CIR Form MA36H, Motors and Generators, for 1997)			36210 00 3			

Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 – Continued						
Line No.	Products and services		Census product code	Products shipped and other receipts, including interplant transfers		
				Value, f.o.b. plant (E)		
				581	584	
	(A)	(B)	Millions	Thou- sands	Dollars	
71	Electric industrial controls and relays (corresponds to the sum of item codes 5400–6705 (except "totals") as reported on CIR Form MA36A, Switchgear and Industrial Controls, for 1997)		36250 00 9	\$		
72	HAND AND EDGE TOOLS (Except cutlery, saws and components, and power-driven tools; report those on lines 86–91)	Mechanics’ hand service tools – <i>Specify kind</i>	34231 00 1			
73		Other – <i>Specify kind</i>	34230 00 3			
74	Air-conditioning and warm-air heating equipment, and commercial and industrial refrigeration equipment		35850 00 7			
75	Sheet metal work		34440 00 8			
76	Metal washers, rivets, screws, bolts, nuts, and other products made on fastener machines (or by cold heading process) – <i>Specify kind and whether or not for aircraft use</i>		34520 00 7			
77	PRECISION TURNED PRODUCTS (Made on CNC turning centers or screw machines)	For automotive use	34511 00 6			
		For other use – <i>Specify end use if known</i>	34512 00 4			
78						
79	Hardware, not elsewhere classified – <i>Specify kind and use</i>		34290 00 7			
80	IRON AND STEEL CASTINGS	Gray and ductile iron	33210 00 6			
81		Malleable iron	33220 00 5			
82		Steel investment	33240 00 3			
83		Carbon steel castings, excluding: investment castings; rolls for rolling mills; and railroad products (report investment castings on line 82 and the other products on line 84)	33252 19 8			
		Other – <i>Specify kind</i>	33250 00 2			
84						
85	Receipts for machine shop job work and job order repairs		35995 00 0			
86	ALL OTHER PRODUCTS MADE IN THIS ESTABLISH- MENT	<i>Describe and report separately each product with a sales value of \$50,000 or more which cannot be assigned to one of the lines above. For all remaining products, write "Other" and report a single total value.</i>				
			18			
			26			
			34			
			42			
			59			
			67			
92	CONTRACT WORK	Receipts for work done for others on their own materials <i>Describe below products worked on and kind of work.</i>	93000 00 8			

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 – Continued

Line No.	Products and services		Census product code	Products shipped and other receipts, including interplant transfers		
				Value, f.o.b. plant (E)		
				581	584	
	(A)		(B)	Millions	Thou- sands	Dollars
93	RESALES	Sales of products bought and sold without further manufacture, processing, or assembly in this establishment. The cost of such items should be reported in item 10, line b.	99989 00 6	\$		
94	MISCELLA-NEOUS RECEIPTS	Sales of scrap and refuse	99980 13 8			
95		Other miscellaneous receipts (including receipts for repair work, etc.)	99980 98 9			
96	TOTAL value of shipments and other receipts Sum of lines 1–95, column (E)		77000 00 8	\$		

Item 19. SELECTED PRODUCTS PRODUCED IN THIS ESTABLISHMENT AND USED IN MANUFACTURING OTHER PRODUCTS MADE IN THIS ESTABLISHMENT

INSTRUCTIONS

1. Report below the quantity of each listed item produced in this establishment and used in manufacturing other products made in this establishment.

2. Purchases or receipts of the items specified below should be reported only in item 17.

3. Materials used to produce the items specified below should be reported in item 17.

4. Quantities produced for sale as such and not for incorporation in other products should be reported in item 18B.

5. Report quantities in the unit of measure specified in column (D).

Line No.	Item		Census code	Was this operation performed at this establishment during 1997?		Unit of measure for quantities	Quantities produced in this establishment and used in manufacturing other products made in this establishment		
				592	(C)				
			591	(B)	Yes	No	(D)		
1	Ferrous foundries		1001 7	1	<input type="checkbox"/>	2	<input type="checkbox"/>	Short tons	
2	NONFERROUS FOUNDRIES (Except die-casting)	Aluminum	1002 5	1	<input type="checkbox"/>	2	<input type="checkbox"/>	Thousand pounds	
3		Copper	1003 3	1	<input type="checkbox"/>	2	<input type="checkbox"/>		
4		Zinc	1004 1	1	<input type="checkbox"/>	2	<input type="checkbox"/>		
5		Other	1005 8	1	<input type="checkbox"/>	2	<input type="checkbox"/>		
6	Nonferrous die-casting foundries		1006 6	1	<input type="checkbox"/>	2	<input type="checkbox"/>		
7	Precision turned products (on screw machines, turning centers, and CNC equipment)		1007 4	1	<input type="checkbox"/>	2	<input type="checkbox"/>		

Items 20 and 21 – Not applicable to this report

REMARKS – Please use this space for any explanations that may be essential in understanding your reported data.

Item 22. CERTIFICATION – This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report (Print or type)			Telephone	Area code	Number	Extension
667	1			2		
Name of company			Address (Number and street, city, State, ZIP Code)			
Period covered	FROM: Month		Day	Year	TO: Month	
	666	1			2	
Signature of authorized person			Title			Date